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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,859	08/16/2007	Lohr Joachim	L7725.06120	2204

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EXAMINER
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VIANA DI PRISCO, GERMAN

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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12/09/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,859	<b>Applicant(s)</b> JOACHIM ET AL.	
	<b>Examiner</b> GERMAN VIANA DI PRISCO	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 26-35,37-43,45 and 50-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-35,37-43,45 and 50-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 26-35 and 38-43, 45, and 50-52 are rejected under 35 U.S.C. 103(a) as

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being unpatentable over ETSI TS 125 309 (3GPP TS 25.309 version 6.2.0 Release 6), and further in view of Mueckenheim at al. (Pub. No.: US 2006/0215604 A1, hereinafter Mueckenheim).

Consider claims 26, 38, and 45, ETSI TS 125 309 discloses a method for communicating control information associated to uplink data on an Enhanced Dedicated Channel (E-DCH) of a Universal Mobile Telecommunication System (UMTS), wherein the method is performed by a user equipment (UE) and comprises: transmitting via an Enhanced Dedicated Physical Control Channel (E-DPCCH) control information associated to uplink data to a Node B controlling a serving cell, wherein the control information comprises a happy-bit that in a set condition indicates to the Node B that the user equipment could use more than an amount of uplink resources allowed by scheduling grants for transmitting scheduled uplink data via the E-DCH, and not setting the happy-bit (e.g., not setting the happy bit to “unhappy”), if the user equipment transmits uplink data via the E-DCH without utilizing the amount of uplink resources for scheduled uplink data as allowed by scheduling grants (e.g. the user equipment is satisfied by the current Service Grant, section 9.3.1.2 in page 25).

However ETSI TS 125 309 does not explicitly disclose that in setting the happy bit, the amount of uplink resources for scheduled uplink data as allowed by scheduling grants corresponds to a maximum amount.

In the same field of endeavor, Mueckenheim teaches (in paragraph 6) that a happy bit may indicate whether the UE is satisfied with the current parameters provided

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by an absolute grant; an absolute grant as defined by ETSI TS 125 309 provides an absolute limitation of the maximum amount of uplink resources the UE may use.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the happy bit if the UE is utilizing the maximum amount of uplink resources for scheduled uplink data as allowed by an absolute scheduling grant as taught by Mueckenheim in the teachings of ETSI TS 125 309 in order to reduce the amount of messaging between the UE and the Node B.

Consider claims 27 and 39, and as applied to claims 26 and 38 respectively above, ETSI TS 125 309 discloses not setting the happy- bit if (i.e. not setting the happy bit to “unhappy”) if the UE has not enough power available to transmit at a higher data rate (section 9.3.1.2 in page 25).

Consider claims 28 and 40, and as applied to claims 26 and 38 respectively above, ETSI TS 125 309 discloses receiving a scheduling grant setting the maximum amount of uplink resources the user equipment is allowed to utilize for the transmission of scheduled uplink data via the E-DCH from the Node B controlling the serving cell (sections 9.1 and 9.2.1 in pages 20-23).

Consider claim 29 and 41, and as applied to claims 28 and 38 respectively above, ETSI TS 125 309 discloses a scheduling grant that updates a serving grant indicating a maximum power ratio the user equipment is allowed to use for

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transmissions of scheduled uplink data on the E-DCH (see Absolute Grant in section 9.1, page 21).

Consider claims 30 and 42, and as applied to claims 29 and 41 respectively above, ETSI TS 125 309 discloses that the maximum power ratio defines a power ratio of the E-DPDCH channel and the Dedicated Physical Control Channel (DPCCH) in the UMTS (section 9.1, page 20-21).

Consider claim 31 and 43, and as applied to claims 29 and 41 respectively above, ETSI TS 125 309 discloses that maximum power ratio is used for selecting an appropriate transport format combination (E-TFC) in a transport format selection procedure performed by the user equipment (section 9.2.1, page 22).

Consider claim 32, and 50, 51 and 52, ETSI TS 125 309 discloses determining the occupancy of a buffer in the user equipment buffering data to be transmitted via the E-DCH (section 9.3.1.1.1, page 24); setting the happy-bit to request the Node B to increase the uplink resources for uplink data transmissions via the uplink dedicated channel, if all of the following criteria are met: a) the UE has enough power available to transmit at higher data rate, b) the maximum uplink resources set by scheduling grants from the Node B controlling the serving cell require more than a configurable number of transmission time intervals for transmitting buffered uplink data via the E-DCH (section 9.3.1.2, page 25),

However ETSI TS 125 309 does not explicitly disclose the condition that the user equipment is utilizing the maximum uplink resources set by scheduling grants for scheduled uplink data transmission.

In the same field of endeavor, Mueckenheim teaches (in paragraph 6) that a happy bit may indicate whether the UE is satisfied with the current parameters provided by an absolute grant; an absolute grant as defined by ETSI TS 125 309 provides an absolute limitation of the maximum amount of uplink resources the UE may use.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the happy bit if the UE is utilizing the maximum amount of uplink resources for scheduled uplink data as allowed by an absolute scheduling grant as taught by Mueckenheim in the teachings of ETSI TS 125 309 in order to reduce the amount of messaging between the UE and the Node B.

Consider claim 33, and as applied to claim 26 above ETSI TS 125 309 discloses that the scheduling grant indicates the maximum uplink resources all user equipments controlled by the Node B of the serving cell transmitting data via an E-DCH respectively are allowed to utilize for scheduled uplink data transmissions via the E-DCHs within a transmission time interval (scheduling grants can be sent once per transmission time interval, sections 9.1 and 9.2.1 in pages 20-23).

Consider claim 34, ad as applied to claim 26 above, ETSI TS 125 309 discloses the user equipment being in soft handover between the serving cell controlled by the

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Node B and a non-serving cell controlled by another Node B, and the method further comprises: transmitting the scheduled uplink data via another E-DCH to the other Node B controlling the non- serving cell, and setting the maximum uplink resources the user equipment is allowed to utilize for scheduled uplink data transmissions via both E-DCHs according to the scheduling grant received from the Node B controlling the serving cell (since the user equipment is in soft handover between a serving cell and a non-serving cell, the scheduled uplink data is received by both the serving and the non-serving cells, however absolute scheduling grants are received only from the Node B controlling the serving cell, section 9.2.1, page 21).

Consider claim 35, and applied to claim 34 ETSI TS 125 309 discloses receiving a relative scheduling grant from the Node B controlling the non-serving cell indicating to decrease the amount of uplink resources utilized by the user equipment, decreasing the amount of uplink resources utilized by the user equipment in response to the relative scheduling grant, and setting the maximum amount of uplink resources to a decreased amount of uplink resources for scheduled uplink data transmission in a next transmission time interval (when receiving a DOWN from the Node B controlling the non-serving cell, section 9.2.2).

Consider claim 36, and as applied to claim 35, above, ETSI TS 125 309 discloses setting the happy-bit (to unhappy) to request the Node B to increase the uplink resources for uplink data transmissions via the E-DCH, if all of the following



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criteria are met: a) the power status of the user equipment allows for uplink data transmission via the E-DCH utilizing more uplink resources than the maximum uplink resources set by scheduling grants from the serving cell and/or the non-serving cell, b) the maximum uplink resources set by the scheduling grants requires more than a configurable number of transmission time intervals for transmitting buffered uplink data via the E-DCH.

However ETSI TS 125 309 does not explicitly disclose the condition that the user equipment is utilizing the maximum uplink resources set by scheduling grants for scheduled uplink data transmission.

In the same field of endeavor, Mueckenheim teaches (in paragraph 6) that a happy bit may indicate whether the UE is satisfied with the current parameters provided by an absolute grant; an absolute grant as defined by ETSI TS 125 309 provide an absolute limitation of the maximum amount of uplink resources the UE may use.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the happy bit if the maximum amount of uplink resources for scheduled uplink data as allowed by an absolute scheduling grant is used by the UE as taught by Mueckenheim in the teachings of ETSI TS 125 309 in order to reduce the amount of messaging between the UE and the Node B.

5. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over ETSI TS 125 309 (3GPP TS 25.309 version 6.2.0 Release 6) in view of Mueckenheim, and further in view of 3GPP TSG-RAN WG2 #46, Happy bit with mirroring.

Consider claim 37 and as applied to claim 35 above, ETSI TS 125 309 as modified by Mueckenheim does not specifically disclose the claimed limitations.

In the same field of endeavor 3GPP TSG-RAN WG2 #46 discloses a transport format indicator indicating a transport format combination used for transmitting scheduled uplink data to the Node B controlling the serving cell within a transmission time interval, wherein the transport format indicator indicates a transport format combination utilizing a lower amount of uplink resources than allowed by the Node B of the serving cell in the scheduling grant, and if the user equipment is transmitting scheduled uplink data via the E-DCH to the Node B controlling the serving cell utilizing the decreased amount of uplink resources, setting the happy-bit in the control information transmitted in the transmission time interval to the Node B controlling the serving cell, wherein the combination of the transport format indicator and the happy-bit in the control information indicates to the Node B controlling the serving cell that the maximum amount of uplink resources has been decreased based on a relative scheduling grant received from the Node B controlling the non-serving cell (Node B can make a distinction by the Happy bit being set to unhappy while the rate is set lower) (section 2.2 , case 5 in table 3 and paragraph 5).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the transport format indicator and the resource request flag as disclosed by 3GPP TSG-RAN WG2 #46 in the teachings of ETSI TS 125 309 and Mueckenheim in order for the Node B to be able to distinguish the reason why the mobile terminal has power headroom.

***Response to Arguments***

6. Applicant's arguments filed 11/09/2009 have been fully considered but they are not persuasive.

In page 13 of the Remarks the Applicant points out that that both 3GPP '309 and Mueckenheim provide that the happy bit shall be set if two criteria are met:

(1) the UE has power to send at higher data rates, and  
(2) the total amount of data in the transmit buffer would require a greater number of TTIs than currently allotted by the scheduling grant. and that 3GPP '309 and Mueckenheim do not expressly state or imply a third condition (3) (as in instant claim 26, for example) that the happy bit is not set unless the UE is using the maximum UL resources set by scheduling grants, but rather the references state merely that the happy bit shall be set if above conditions (1) and (2) exist.

As understood by the Examiner 3GPP '309 provides that the happy bit shall be set if two criteria are met:

(1) the UE (user equipment) has power to send at higher data rates, and  
(2) the total amount of data in the transmit buffer would require a greater number of TTIs than currently allotted by the current serving grant.

As best understood by the Examiner, the current serving grant may be lower than an absolute grant, and an absolute grant provides an absolute limitation of the maximum amount of uplink resources the UE is allowed to use. Therefore in 3GPP'309 the conditions for setting the happy bit are met in situations where the UE is not necessarily utilizing the maximum uplink resources set by an absolute grant.

The instant invention in addition to the two criteria specified by 3GPP '309, it adds a third criterion for setting the happy bit: the UE must be utilizing the maximum uplink resources set by scheduling grants. The Examiner understands that the scheduling grants in the limitation refer to absolute grants because absolute grants provide an absolute limitation of the maximum amount of uplink resources the UE is allowed to use. The Examiner has relied upon Mueckenheim to expressly teach (in paragraph 6) that a condition for setting the happy bit is whether the UE is satisfied with an absolute grant or a relative grant.

The Applicant further points out in the last paragraph in page 13 of the Remarks that claim 26 states that the happy bit indicates that condition (1) exists, but does not state that the happy bit shall be set if condition (1) exists. In other words, condition (1) can exist without the happy bit being set. The Examiner respectfully disagrees because claim 26 recites the “ a happy-bit, that when set, indicates to the Node B that the user equipment could use more than a maximum amount if uplink resources.....”, therefore the happy bit has to be set in order to indicate an unhappy condition.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERMAN VIANA DI PRISCO whose telephone number is (571)270-1781. The examiner can normally be reached on Monday through Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Germán Viana Di Prisco/  
Examiner, Art Unit 2617

/Rafael Pérez-Gutiérrez/  
Supervisory Patent Examiner, Art Unit 2617

December 4, 2009